Key Learnings

- A fraction is a number which may represent a part to whole relationship.
- Fractions are used to represent part to whole relationships of distance, area, volume, or of sets.
- Fractions may also represent other information.
- In a fraction representing a part to whole relationship, the top value is called the numerator and tells me how much of the whole I have.
- In a fraction representing a part to whole relationship, the bottom value is called the denominator and tells me how many parts form the whole.
- Any fraction can be represented a variety of ways.
- The whole is important.
- In a model using distance, area, or volume, equal parts must have equal area.
- In a set model, equal parts must have an equal number of objects.

Additional Learnings

- A unit fraction is any fraction which has a numerator of 1 – meaning I have one unit out of the whole.
- I can count by unit fractions in a way similar to counting by whole numbers. For example, ¼, 2/4, ¾, 4/4/.
- I can break fractions apart into smaller fractions. For example, 5/4 = 4/4 + ¼ ; ¾ + 2/4; ¼ + ¼ + ¼ + ¼ + ¼ .
- Some representations work better for some fractions, depending on the context.
- Larger denominators tell me that the whole has been cut into more pieces.
- Larger numerators tell me that I have more pieces of the whole.

Possible Learnings

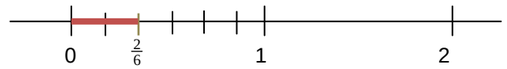
- Different fractions can represent the same numerical value. These are called equivalent fractions.
- I know some fraction benchmarks, including ¼, 1/3, ½ and 1. These benchmarks allow me to estimate the numerical value of other fractions.
- The same model can be used to show different fractions.

Success Criteria….

We are learning how to **represent fractions**.

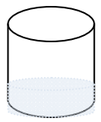
Representing a Fraction as a Part to Whole Relationship

Using a Number Line

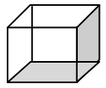


Using an Area Model

Using a Volume Model

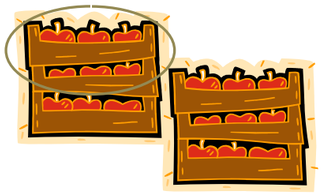


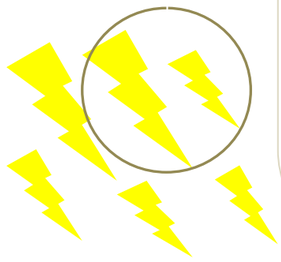
Using a Surface Area Model



*The representations left and above show equal pieces with **equal area**. The representations below show equal pieces with **equal number of items.***

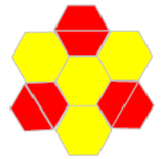
Using a Set Model





Key Assessment Questions

What fraction(s) could be explained by the following model?



Represent the fraction 3/7 using:

a) a number line
b) an area model
c) a volume or surface area model
d) a set model

Express 13/8 as the sum of other fractions.

Express 5/9 as the sum of other fractions.

Select a representation for the fraction 7/11 and explain why you preferred that model.

Write a fraction that is equivalent to ¾.

Write a fraction that is equivalent to 8/12.

Which fraction is larger: 2/5 or 5/8. Explain how you know.

Checking My Understanding

I am beginning to understand fractions if I:

- recognize a fraction is a single number
- can explain the meaning of the numerator and the denominator in a fraction
- can represent a fraction using an area model or a number line or a set model
- visualize some benchmark fractions such as 1/2, 3/4, and 1

I am developing a deeper understanding of fractions if I:

- can count by unit fractions
- think carefully about the model I will use before I construct it
- am able to break a fraction into smaller fractions

I am refining my understanding of fractions if I:

- can determine equivalent fractions
- use benchmarks to compare fractions